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EXAMINER

NICKERSON, JEFFREY L

ART UNIT	PAPER NUMBER
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2442

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/587,471	Applicant(s) DOPPELHAMER ET AL.	
	Examiner JEFFREY NICKERSON	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Application No. 10/587,471 filed nationally on 16 March 2007 and internationally on 28 January 2005. The request for continued examination presented on 06 May 2009, which provides change to claims 9, 11-12, and 14-15, is hereby acknowledged. Claims 9-15 have been examined.

Drawings

2. The RCE filed 06 May 2009 presenting arguments traversing the objection to the drawings is noted. The objection to the drawings is maintained and supporting rationale is recited more thoroughly below in order to articulate the exact deficiencies.

3. The drawings are objected to under 37 CFR 1.84(o) for lacking suitable descriptive legends. 37 CFR 1.84(o) recites that “... *legends ... may be required by the examiner where necessary for understanding the drawing*”. Figure 2, and only Figure 2, is found deficient in this regard, because it merely contains reference indicia and arrows between blocks and is otherwise undecipherable. Reference indicia “1,2”, “3”, “6,7,4”, “10,4”, “4,8”, and “5”, should each be descriptively labeled with either a legend containing reference-indicia-to-descriptive-label mappings, or with juxtaposed descriptive labels identifying their makeup. Steps S1 through S14 should also be descriptively labeled either via a legend or juxtaposed descriptive labels. No new matter should be entered. Figure 2 appears to be a signaling and messaging diagram. For examples of adequately labeled signaling diagrams, please see US 6,731,932, Figures

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2-10, specifically Figures 8 and 10. Or, alternatively, see the examples the examiner provided in the most recent Office Action, dated 02 April 2008. If applicant seeks additional clarification, then the examiner requests a phone call to expeditiously resolve this informality. Contact information may be found at the conclusion of this Office Action.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. **The objection to the drawings will not be held in abeyance.**

Claim Objections

4. The RCE filed on 06 May 2009 providing change to claims 9 and 12 is noted. All outstanding claim objections are hereby withdrawn.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 12, this claim recites the limitation "...an optimization layer **in each case** is implemented at the client..." in line 6. There is insufficient antecedent basis for the phrase "each case" as it presently appears within the claim and it is therefore impossible to determine the definition of a "case". For purposes of further examination, the examiner will consider the phrase to read as follows: "...an optimization layer is implemented at the client...".

Regarding claims 13-15, these claims inherit and do not cure the indefinite features of their parent claim(s).

Response to Arguments

7. Applicant's arguments with respect to claims 9-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauch et al (US 2004/0177359), and further in view of Shakib et al (US 6,321,274 B1) and Wei (US 5,778,228).

Regarding claim 9, Bauch teaches a system for communication between remote objects which are associated with service providers (Bauch: Figure 1, application servers); wherein said remote objects can be accessed as web services (Bauch: [0002]-[0003]), and client-end local interfaces associated with a client in a computer network (Bauch: Figure 2, items 221-223 application agents), said system comprising:

a general service (PAN's server's core) installed, in addition to existing services (applications), at the service provider, and being designed to switch one or more service requests from a client to available services, and to transmit one or more response messages to the client (Bauch: Figure 3, PAN's server's core, APIs, transforming modules, etc; [0034]; Figure 6, [0041]);

an optimization layer (PAN client's core) implemented at the client in addition to the local interfaces (application agents), and being designed to carry out client-end

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optimization and combine request groups (combining and transforming), and a general proxy (pan client's network module), to carry out grouped requests, and to return response messages to the optimization layer (Bauch: Figures 2, 4-5, [0029]-[0033]; [0035]-[0048]);

wherein the optimization layer contains at least one cache (buffer), with whose aid service calls can be avoided or delayed (Bauch: Figure 5; [0039]-[0040]); and

wherein the optimization layer is configured to evaluate the response messages before passing the response messages to a client application via a local proxy (Bauch: Figure 9; [0044]).

Bauch does not teach wherein the requests are RPCs; or

wherein the interfaces are proxy stubs.

Shakib, in a similar field of endeavor, teaches wherein the requests are RPCs (Shakib: abstract; Figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Shakib for using RPCs. The teachings of Shakib, when implemented in the Bauch system, will allow one of ordinary skill in the art to utilize the system in an RPC environment. One of ordinary skill in the art would be motivated to utilize the teachings of Shakib in the Bauch system in order to practice the system in an RPC environment.

The Bauch/Shakib system does not teach wherein the interfaces are proxy stubs.

Wei, in a similar field of endeavor, teaches wherein the interfaces are proxy stubs (Wei: abstract; Figure 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Wei for using proxy stubs. The teachings of Wei, when implemented in the Bauch/Shakib system, will allow one of ordinary skill in the art to utilize the system in an RPC environment with stubs. One of ordinary skill in the art would be motivated to utilize the teachings of Wei in the Bauch/Shakib system in order to practice the system in an RPC environment.

Regarding claim 12, this claim contains limitations found within that of claim 9, and the same rationale of rejection is used, where applicable; and

wherein the optimization layer is designed to update and invalidate data in the cache (Bauch: Figure 5, step 502).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauch et al (US 2004/0177359), in view of Shakib et al (US 6,321,274 B1) and Wei (US 5,778,228), and in further view of Kumar et al (US 7,130,890 B1).

Regarding claim 10, the Bauch/Wei/Shakib system teaches wherein the client is designed by means of an optimization layer and the general proxy to initiate communication with a service provider (Bauch: abstract; Figures 4-5).

The Bauch/Wei/Shakib system does not teach initiating communication without any call from a client application in order to update stored information.

Kumar, in a similar field of endeavor, teaches initiating communication without any call from a client application in order to update stored information (Kumar: abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kumar for monitoring user request tendencies and prefetching resources automatically without application initiation. The teachings of Kumar, when implemented in the Bauch/Wei/Shakib system, will allow one of ordinary skill in the art to monitor RPC requests and prefetch resources. One of ordinary skill in the art would be motivated to utilize the teachings of Kumar in the Bauch/Wei/Shakib system in order to spread out updating cached resources so that resource requests are not bursty.

11. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauch et al (US 2004/0177359), in view of Shakib et al (US 6,321,274 B1) and Wei (US 5,778,228), and in further view of Krishnamurthy et al (US 6,578,113 B2).

Regarding claim 11, the Bauch/Wei/Shakib system teaches wherein the client is designed by means of the optimization layer and the general proxy to manage the data in the cache (Bauch: Figure 5); and wherein transmissions are of call groups (Bauch: Figure 5, steps 501-503; Shakib: col 3, lines 45-49).

The Bauch/Wei/Shakib system does not teach requesting piggyback information together with the transmission and the reverse transmission of responses from the service provider, in order to update and validate the data in the cache.

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Krishnamurthy, in a similar field of endeavor, teaches requesting piggyback information together with the transmission and the reverse transmission of responses from the service provider, in order to update and validate the data in the cache (Krishnamurthy: abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Krishnamurthy for piggybacking validation requests. The teachings of Krishnamurthy, when implemented in the Bauch/Wei/Shakib system, will allow one of ordinary skill in the art to piggyback cache validation requests onto bundled RPCs. One of ordinary skill in the art would be motivated to utilize the teachings of Krishnamurthy in the Bauch/Wei/Shakib system in order to reduce network traffic while maintaining cache coherency.

Regarding claim 13, this method claim contains limitations found within claim 11, and the same rationale of rejection is used, where applicable.

12. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauch et al (US 2004/0177359), in view of Shakib et al (US 6,321,274 B1), Wei (US 5,778,228), and Krishnamurthy et al (US 6,578,113 B2), and in further view Kumar et al (US 7,130,890 B1).

Regarding claim 14, the Bauch/Wei/Shakib/Krishnamurthy system teaches wherein the optimization layer communications with a service provider for management, in particular

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for updating and in validation, of the data in the cache (Bauch: Figure 5; Krishnamurthy: abstract).

The Bauch/Wei/Shakib/Krishnamurthy system does not teach initiating communication without any call from a client application.

Kumar, in a similar field of endeavor, teaches initiating communication without any call from a client application (Kumar: abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kumar for monitoring request tendencies and prefetching resources automatically without application initiating the requests. The teachings of Kumar, when implemented in the Bauch/Wei/Shakib/Krishnamurthy system, will allow one of ordinary skill in the art to RPC requests and prefetch resources. One of ordinary skill in the art would be motivated to utilize the teachings of Kumar in the Bauch/Wei/Shakib/Krishnamurthy system in order to spread out updating cached resources so that resource requests are not bursty.

Regarding claim 15, this method claim contains limitations found within claim 14 and the same rationale of rejection is used, where applicable.

Citation of Pertinent Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Graves et al (US 6,785,675 B1) discloses a system that aggregates client requests.
- b. Wei (US 5,526,491) discloses a generic stub based RPC system similar to the cited.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 9:00am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./
Jeffrey Nickerson
Examiner, Art Unit 2442

/Andrew Caldwell/
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